

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 13

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

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Ex parte DEAN CLARK JORDAN and RICHARD D. SEABERG

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Appeal No. 2001-0304  
Application No. 09/168,358

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ON BRIEF

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Before COHEN, FRANKFORT and BAHR, Administrative Patent Judges.  
BAHR, Administrative Patent Judge.

**DECISION ON APPEAL**

This is a decision on appeal from the examiner's final rejection of claims 20 and 21. Claims 1-14, 18 and 19, the only other claims pending in this application, stand withdrawn from further consideration under 37 CFR § 1.142(b) as being directed to a non-elected invention.

### BACKGROUND

The appellants' invention relates to improvements in fluid power load-clamping systems (specification, page 1). A copy of the claims under appeal is set forth in the appendix to the appellants' brief.

The examiner relied upon the following prior art references in rejecting the appealed claims:

Petersson et al. (Petersson)	WO 79/00330	Jun. 14, 1979
(published International Application)		
Nilsson	2,312,417	Oct. 29, 1997
(published UK patent application)		

AURAMO, "Mast Centralization System For Lift Trucks" brochure<sup>1</sup> (Auramo)

The following rejections are before us for review.

- (1) Claim 20 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Auramo in view of Nilsson.
- (2) Claim 20 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Nilsson in view of Petersson.
- (3) Claim 21 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Petersson in view of Auramo.

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<sup>1</sup> Appellants, who filed this document with Paper No. 2, indicate in the Form PTO-1449 submitted therewith that the publication date of this reference is at least as early as 1996.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejections, we make reference to the final rejection and answer (Paper Nos. 7 and 10) for the examiner's complete reasoning in support of the rejections and to the brief and reply brief (Paper Nos. 9 and 11) for the appellants' arguments thereagainst.

### OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by the appellants and the examiner. As a consequence of our review, we make the determinations which follow.

#### ***Rejection (1)***

Auramo discloses a mast centralization system for a lift truck having a mast and a paper roll clamp movable along the mast. The mast centralization system is designed to reduce the risk of costly edge damage by aligning the mast automatically at the correct angle to thus ensure that the paper rolls are lowered in "the true vertical position" (page 2). In rejecting claim 20 as being unpatentable over Auramo in view of Nilsson, the examiner relies upon the VM-2U embodiment of Auramo's mast centralization system, which includes two mast-position sensors installed on the bottom of the lift truck mast D. In this

embodiment, mast centralization is performed in relation to the ground, in contrast to the VM-2, VM-2C, VM-1U and VM-1UC embodiments wherein the mast centralization is performed in relation to the truck chassis. Auramo teaches that the VM-2U and VM-2UC models are capable of positioning the mast vertically “in relation to the ground, even when the lift truck itself is inclined” (page 4), and that these models “also compensate for the change in the truck position caused by soft tires from heavy loads” (page 4). Although Auramo uses the terminology “true vertical,” it is apparent from the teachings of Auramo as a whole that the mast inclination sensors and centralization system are ground-referenced (in the VM-2U and VM-2UC models) or truck chassis-referenced (in the other models) and are not “gravity-referenced” to determine whether the load is tilted “relative to gravity” as alleged by the examiner on page 3 of the final rejection and on page 3 of the answer. In this regard, we also note that the tilt sensor 78 of Nilsson senses the position of a point on the lift stand 24 in relation to the truck for conversion to a measurement of the angle to which the stand 24 is tilted in relation to the truck (page 4). As such, Nilsson also fails to disclose a “gravity-referenced” sensor as called for in appellants’ claim 20 and thus does not cure the above-noted deficiency of Auramo.

Moreover, for the reasons discussed *infra*, we agree with appellants that Nilsson lacks a teaching of “a load-lowering sensor operable to determine whether or not said load is being lowered by said lifting mechanism,” a limitation of claim 20 which the examiner

concedes is missing in Auramo. Nilsson provides a pressure sensor 60 for measuring the lifting force exerted by the lifting means 22 of a load-handling device, the measured lifting force being used by a control unit 50 to control a directional valve 72 to adjust a hydraulic cylinder 66 proportionally to the pressure  $P_L$  detected by the sensor 60 to cause the stand 24 to be tilted back during the gripping and lifting sequence in which the paper roll or rolls leave the supportive surface in order to counteract the “curtsy” which unavoidably occurs as a result of the load (the paper roll or rolls) once it leaves the supporting surface (see pages 6-7). As noted by Nilsson (page 7), control of the tilt function is also reversible so as to enable a roll to be deposited flatly on the supportive surface without danger of the roll edges being damaged.

From our perspective, the mere sensing of the magnitude of the lifting pressure or lifting force being applied to the load in Nilsson’s device is insufficient by itself to determine whether or not a load is being lowered by the lifting mechanism, as called for in claim 20. Rather, a particular lift pressure or force magnitude as detected in Nilsson’s device may indicate any of a lifting, lowering or static condition of the lifting mechanism. The examiner concedes on page 4 of the answer that Nilsson does not discriminate between lifting and lowering but perceives in claim 20 no limitation as to discrimination between lifting and lowering. Although we do not share appellants’ view (reply brief, page 3, lines 15-23) that claim 20 requires that the automatic tilt adjustment be limited to

situations where dynamic disturbances are likely to be minimized, we do agree with appellants that the claim language “operable to determine whether or not said load is being lowered” is not reasonably susceptible to any interpretation other than to define a sensor capable of discriminating between lowering and other conditions.

In light of the above, it is our opinion that the combined teachings of Auramo and Nilsson are insufficient to suggest the subject matter of appellants’ claim 20. Therefore, we shall not sustain rejection (1).

### ***Rejection (2)***

The examiner’s rejection of claim 20 as being unpatentable over Nilsson in view of Petersson rests in part on the examiner’s finding that Nilsson discloses “a load-lowering sensor operable to determine whether or not said load is being lowered by said lifting mechanism” as recited in claim 20. The above-discussed lack of support in Nilsson for this finding fatally taints the examiner’s conclusion that the differences between the subject matter recited in claim 20 and Nilsson are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art. As pointed out by appellants on page 8 of the brief, Petersson also fails to disclose a load-lowering sensor operable to determine whether or not a load is being lowered by the lifting mechanism. Accordingly, we conclude that the combination of

Nilsson and Petersson is insufficient to establish a *prima facie* case of obviousness of the subject matter of claim 20. It thus follows that we shall not sustain rejection (2).

### ***Rejection (3)***

Petersson discloses a truck equipped with a clamping device (Figures 2 and 3) vertically adjustable on a lifting frame 12 and a sensor for detecting the inclination of the clamping device and registering the angle of inclination on a pointer device so that the driver can adjust the clamping device to the desired inclination. In one embodiment (page 3, last paragraph), Petersson teaches adjusting the clamping device to the desired inclination by adjusting the angle of the clamping device in relation to the lifting frame. Further, Petersson contemplates registering the angle of inclination of the clamping device independently of the possible inclination of the truck (i.e., relative to gravity) by means of a plummet device to which the indicator is related (page 3, lines 7-10). Petersson does not provide details as to where the plummet-type sensor is mounted. Where the adjustment of the angle of the clamping device is achieved by angular adjustment of the clamping device relative to the frame, as disclosed by Petersson in the last paragraph on page 3, rather than by angular adjustment of the frame and the clamping device, one skilled in the art would have appreciated that the inclination sensor should be mounted, at least in part, to the clamping device so as to give a direct indication of the inclination of the element to be adjusted. Appellants' own argument on page 10 of the brief that "the logical solution is to

interpose a simple electromechanical position transducer between the clamp and the mast” would itself appear to support the position that it would have been obvious to one skilled in the art to mount at least one end or portion of the sensor (transducer) on the clamp.

Petersson also does not disclose a controller automatically operable, in response to the inclination sensor, to cause the tilting mechanism to adjust the load to an attitude which is untilted with respect to gravity, as called for in claim 21. Instead, the inclination sensor registers the inclination to an indicator which is used by the driver to manually adjust the clamp to the desired attitude. It is the examiner’s position, however, that Auramo provides suggestion to automate the inclination adjustment function of Petersson (final rejection, page 4). For the reasons which follow, we find ourselves in agreement with the examiner on this issue.

Auramo recognizes that paper roll edge damage can occur when paper rolls are handled using handling apparatus of the type disclosed by Petersson. To avoid such costly damage, Auramo teaches automatic alignment of the clamping device, via alignment of the mast, to the correct angle during lowering of a load to ensure that the paper rolls are lowered in the true vertical position. Auramo further discloses that the alignment can also be performed during both the lifting and lowering of a load (sentence bridging the columns on page 2). The above-mentioned teachings of Auramo would have

suggested to one skilled in the art at the time of appellants' invention providing an automatic controller for adjusting the inclination of the clamping device of Petersson, in response to the measured inclination registered by the inclination sensor, to ensure that the paper roll is lowered in the true vertical (i.e., untilted with respect to gravity) position, thus avoiding edge damage which might otherwise result from operator error.

Appellants' arguments on pages 9 and 10 of the brief and pages 4 and 5 of the reply brief that the modification proposed by the examiner would create a dynamic disturbance problem and, thus, would not have been considered by one skilled in the art are not well taken. Nothing in the proposed modification requires that the automatic inclination adjustment be performed during conditions such as acceleration, braking or travel over uneven surfaces which appellants allege could result in dynamic disturbances. In fact, Auramo teaches automatic adjustment only during lifting and lowering of the load and appears to be primarily concerned with proper alignment during lowering, thereby suggesting that automatic adjustment may only be needed or desired during lowering.

For the foregoing reasons, we perceive no error in the examiner's determination of obviousness of the subject matter of claim 21. We shall thus sustain rejection (3).

#### CONCLUSION

To summarize, the decision of the examiner to reject claims 20 and 21 under 35 U.S.C. § 103 is reversed as to claim 20 and affirmed as to claim 21.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

IRWIN CHARLES COHEN  
Administrative Patent Judge

CHARLES E. FRANKFORT  
Administrative Patent Judge

JENNIFER D. BAHR  
Administrative Patent Judge

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